NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

Critical Area Planting

(Acre)

Code 342

DEFINITION

Planting vegetation such as trees, shrubs, vines, grasses, or legumes on highly erodible or critically eroding areas (does not include tree planting mainly for wood products).

PURPOSES

To stabilize critically eroding areas for the purpose of limiting soil erosion.

CONDITIONS WHERE PRACTICE APPLIES

Applies to highly erodible areas or critically eroding areas that cannot be stabilized by using only normal vegetative establishment methods. These areas could erode severely or result in sediment, nutrient, and pesticide damage if left untreated. By itself, this practice does not apply to areas where concentrated flow from drainage areas (normally yielding a peak rate of flow of 5 cubic feet per second or more from a 10-year, 24 hour storm) is the primary erosion hazard.

CRITERIA

Recommendations should be made using the information in the following table for species suitability and seeding rates. Native species should be recommended where practical. Tall fescue should be recommended only where erosion control is critical and other species are not suitable. This may be considered to be where concentrations of water flow at erosive velocities, on embankments and emergency spillways of lakes and ponds, or where other site conditions dictate the need for such a species. For projects requiring a Construction in a Floodway permit, conditions where tall fescue may be used are listed in the memorandum of understanding between the Indiana Department of Natural Resources and the USDA Natural Resources Conservation Service, dated May 19, 1994.

When a seeding mixture is proposed on a critical site and is not listed in the above table, submit your proposal to an agronomist for concurrence.

Sodding is a means by which vegetation may be established quickly and uniformly. Cultivated sod is preferred over native or pasture sod. With irrigation, sodding may be done any time from May 1 until October 20. Without irrigation, do not lay sod between June 10 and September 1. Laying of sod is to be in accordance with suppliers recommendations or practice specifications.

Sprigging may be used to establish reed canarygrass. As with sod, sprigging may be done from May 1 until October 20 if irrigation is provided. Without irrigation, do not sprig between June 10 and September 1. Practice specifications should be consulted for equipment and methodology.

For information on soil fertility requirements, pH, longevity, winter hardiness, pounds per bushel, seeds per pound and emergence time, see Tables 2 and 3 in the Technical Guide Practice Standards and Specifications 327, Conservation Cover. Other important considerations for

successful implementation of this practice are found in Standard 484, Mulching, Standard 612, Tree/Shrub Establishment, and Standard 645, Upland Wildlife Habitat Management, in Section IV of the Field Office Technical Guide.

CONSIDERATIONS

Special attention shall be given to maintaining and improving visual resources and habitat for wildlife where applicable. This practice will have a positive effect on both visual resources and wildlife habitat although the magnitude of the effect will vary depending on area treated and species planted.

The practice will have an effect on the water budget by reducing volumes and rates of runoff, increasing infiltration, evapotranspiration, deep percolation and groundwater recharge. The increased organic matter in the soil will increase the soil water holding capacity.

The vegetation provides a filtering effect on runoff. This practice will improve water quality by reducing erosion rates and the movement of sediment along with the soluble and sediment attached substances carried by runoff.

The practice will reduce wind erosion potential by reducing the exposure of erosive soils and slowing the wind velocity near the soil surface.

Water Quantity

1. Effects on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, deep percolation, and ground water recharge.

2. Effects of vegetation management on soil moisture.

3. Effects of snow catch and melt on the water budget.

4. Effects of increased organic matter on water holding capacity of the soil.

5. Potential for a change in plant growth and transpiration because of changes in soil water volume.

Water Quality

1. Effects on erosion and the movement of sediment and soluble and sediment-attached substances carried by runoff.

2. Filtering effects of vegetation on movement of sediment and dissolved and sediment-attached substances.

3. Short-term and construction-related effects on downstream water courses.

4. Potential for earth moving to uncover or redistribute toxic materials and effect on water or vegetation.

5. Effects on the use and management of nutrients and pesticides and resulting effects on surface and ground-water quality.

6. Effects on the visual quality of downstream water resources.

PLANS AND SPECIFICATIONS

Plans and specifications should be prepared for specific field sites. The plans should include a plan view, locations, and extent for each seeding mixture or planting species, as appropriate. The specifications should include seedbed preparation, liming, fertilizing, seeding or planting, mulching and operation and maintenance recommendations.

OPERATION AND MAINTENANCE

Operation and maintenance recommendations should be prepared detailing practices necessary to maintain the planting for its intended purposes. These practices may include mowing, controlling undesirable species, fertilizing, traffic and grazing control, etc.

Seeding and Site Suitability Chart for Critical Areas

The following seed mixtures should be selected based on characteristics listed in Standard 327, Conservation Cover, the MOU with IDNR on Fescue and site conditions and seed growth characteristics.

(Not listed in order of Preference)

Species	Seeding Rates Pure Live Seed (lbs/ac)	Site Moisture Conditions			Seeding Dates
		Droughty	Drained	Wet	
North (MAAT ≤ 51°F)[1]					
1. Smooth Bromegrass	20		X		March 1 – May 10 or
Timothy	4				Aug. 1 – Sept. 30
2. Tall Fescue	35	X	X	X	Same As Above
3. Tall Fescue	30	X	X	X	Same As Above
Annual/perennial Ryegrass	5				
4. Reed Canarygrass	18	X	X	X	Same As Above
Timothy or Red Top	4				
South (MAAT > 51°F)[1]					
1. Tall Fescue	25		X	X	Same As Above
Creeping Red Fescue	10				
2. Reed Canarygrass	18	X	X	X	Same As Above
Timothy or Red Top	4				
3. Tall Fescue	30	X	X	X	Same As Above
Ladino Clover	5				
4. Red Creeping Fescue	20		X	X	Same As Above
Kentucky Bluegrass	4				
5. Tall Fescue	30	X	X	X	Same As Above
Annual/Perennial Ryegrass	5				
6. Tall Fescue	35	X	X	X	Same As Above

1. Species and mixtures best suited for areas with Mean Annual Air Temperature as listed.

Mixtures containing Tall Fescue must be low endophyte or endophyte free varieties, such as Fawn, Kenhy, Johnstone, Martin, Phyter , and Stargazer when used on areas regulated by the Indiana Department of Natural Resources. Endophytic Tall Fescue may be used in emergency spillways, on lake and pond embankments and other areas where erosion control is critical such as where slopes are 3:1 or steeper or bankful velocities exceed 3 feet per second. Endophytic Tall Fescue may be used on areas not regulated by IDNR. However, we will promote the use of seeding mixtures which exclude endophytic Tall Fescue in all cases except where it is necessary for success of the project.

Where Endophytic Tall Fescue is used to seed emergency spillways, or lake and pond embankments, then all other areas will be seeded with grass or grass/legume mixtures which exclude tall fescue.

Areas Less Critical to Establish

Species	Seeding Rates Pure Live Seed (lbs/ac)	Site Moisture Conditions			Seeding Dates
		Droughty	Drained	Wet	
North (MAAT ≤ 51°F)[1]					
1. Birdsfoot Trefoil	8	X	X	X	March 1 – May 10 or
Bluegrass	2				Aug. 1 – Sept. 30
2. Birdsfoot Trefoil	8				
Timothy					
South (MAAT > 51°F)[1]					
1. Crownvetch[3]	12	X	X		March 1 – May 10
Orchard grass	6				
2. Korean Lespedeza [2,3]	12	X	X	X	March 1 – May 1
Orchard grass	2				
3. Sericia Lespedeza[3]	12	X	X	X	March 1 – May 1
Orchard grass	2				

1. Species and mixtures best suited for areas with Mean Annual Air Temperature as listed.
2. Allow Korean Lespedeza to go to seed before mowing to help maintain stand.
3. Inoculate seed with specific inoculant.

See standard 327, Conservation Cover, for other mixtures that exclude tall fescue.

Temporary Seedings

Species	Seeding Rates Pure Live Seed (lbs/ac)	Site Moisture Conditions			Seeding Dates
		Droughty	Drained	Wet	
1. Wheat	150		X		After fly-free date,
					but within 2 weeks of
					the fly-free date for
					your area.
2. Rye	150	X	X	x	Sept 15 – Oct 30
3. Oats	100		X		March 1 – April 15
4. Annual Ryegrass	20	X	X		March 1 – May 1 or
					Aug 1 – Sept 1
5. Sudangrass	0	X	X		May 1 – July 30
6. Corn	200	X	X		April 1 – June 30